

## Study of Regional Climate Changes

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The objectives are: (1) to diagnose/improve global and regional climate models for simulating present climate characteristics, and (2) to reconstruct/diagnose (and simulate) past 2000 years climate changes using Chinese historical data for providing “natural” (versus the “anthropogenic”) climate variability.

Progress in the two areas include: (1) model and diagnostic study of the Northeast U. S. winter climate and its relation to the PNA pattern (Notaro et al., 2006, *MWR*, in press), and development and evaluation of a warm cloud parameterization using ARM-SGP data (Cheng et al., 2006, *QJRMS*, in revision); and (2) reconstruction of Pacific decadal oscillation record since 1470 AD (Shen et al., 2005, *GRL*), reconstruction of high resolution precipitation data over China (Ge et al., 2005, *BAMS*), identification of exceptional drought events over eastern China during the last five centuries (Shen et al., 2006, *Climatic Changes*, in revision), and correlation study of spring phenophases in recent decades over eastern China and regional climate changes (Zheng et al., et al., 2006, *Climatic Changes*, accepted). Planning for historical climate simulation over China is on-going.